

Dennis Tito

Testimony Submitted to the

**Senate Committee on Commerce, Science & Transportation
Subcommittee on Science, Technology, and Space**

and the

House Committee on Science, Subcommittee on Space & Aeronautics

**Joint Hearing on “Commercial Human Spaceflight”
Thursday, July 24, 2003**

Thank you to the Chairmen and Ranking Members of both subcommittees for your invitation to participate in this hearing today.

Over two years ago I achieved a lifelong dream by riding into space aboard a Russian Soyuz capsule, visiting the International Space Station, and returning safely to the Earth. I was fortunate enough to have built a very successful investment business, and equally fortunate that less than a decade after the Cold War, our former space race competitors had partially privatized their human spaceflight activities and were willing to sell me a flight.

Since returning from my mission, I have given hundreds of speeches to audiences in the U.S. and abroad in which I’ve shared my spaceflight experience. The response has been universally positive, and many listeners – especially young people – tell me how eager they are to go into space themselves. This isn’t really newsworthy, given that some 600,000 people have applied to become astronauts over the past 40 years, and large percentages regularly tell pollsters they would fly on the Space Shuttle, even after *Columbia’s* tragic loss. Perhaps more importantly, audiences seem genuinely inspired by the plausibility that one day they or their children could fly into space themselves.

Of course, very few people can afford to travel into space as I did, by paying roughly \$20 million for the privilege. Even that high price is probably artificially low, due to the ongoing economic hardships of the Russian aerospace industry. At the same time, NASA has had to postpone its development of a second generation reusable launch vehicle that could carry people and cargo into orbit at lower cost than current systems.

Yet there is a way to make at least a brief experience of space flight available to many more people. Just as Alan Shepard and Gus Grissom flew suborbital Mercury missions before John Glenn eventually orbited the Earth, suborbital rockets can provide a person with a few minutes of weightlessness and a view of the Earth from 100 kilometers up. In just the past year, entrepreneurs in the U.S. and elsewhere have made significant progress in developing fully reusable suborbital vehicles which could economically loft adventure travelers into the shallow waters of space.

Two years ago, when I testified before the House Science Committee, I was asked if I would invest in a reusable launch vehicle company. At the time I said "no", and that was the right answer... then. But today, after talking to thousands of people who want to fly into space and seeing the progress that's been made, my answer would be different. Today I would say "quite possibly."

There is, however, one barrier that keeps me – and probably many others – from writing out a check to fund the development of a commercial suborbital RLV. This stumbling block can only be overcome by people who work in this city, because the problem itself is located here.

Please understand me: I am not looking for government funding or technology. I don't need an investment tax credit or a loan guarantee. I'm not even looking to escape the regulations under which other space transportation companies operate. But I would like to know which government agency, and which set of regulations, will oversee this new industry.

You see, I am willing to risk my money on a technical concept and a team of engineers. I am willing to risk my money on the customers actually showing up. And I am willing to risk my money competing against other companies in the marketplace. But I am not willing to risk my money on a regulatory question mark, on waiting for the government to decide who can give me permission to get into business, and what the regulatory standards for my business will be.

The Commercial Space Launch Act of 1984 gave the Office of Commercial Space Transportation the exclusive authority to license commercial launches, including suborbital rockets, and in 1998 Congress extended this authority to include reentries of reusable launch vehicles. But in the meantime, this office was moved into the Federal Aviation Administration, an agency that certainly has a lot of other issues on its plate.

Given that some proposed suborbital RLVs will have wings and take off and land from runways, a question has arisen whether these new vehicles will be regulated by the commercial space transportation office or by the FAA's much larger and more risk-averse aircraft and airline certification division.

This is not a matter of bureaucratic turf. When aerospace pioneer Burt Rutan rolled out his Spaceship One experimental RLV a few months ago, he declared that he had no intention of seeking FAA certification of his vehicle as a commercial airplane, because it would cost hundreds of millions of dollars to meet the same safety requirements as the Boeing 777. Rutan's whole privately-funded research and development program will cost perhaps a tenth of that amount.

If the federal government chooses to regulate this nascent suborbital RLV industry as stringently as it does the mature, 100-year-old airplane industry, then this new industry will die before it is even born. Even the possibility of such burdensome regulation may stop these new RLVs from ever getting off the drawing board, let alone flying into space.

One reason there is regulatory confusion is that the terms "suborbital rocket" and "suborbital trajectory" are used in the original Launch Act but never actually defined. Recently, the FAA has attempted to promulgate clarifying definitions of these terms, but has been unable to reach internal agreement. This paralysis is a perfect example of why investors such as myself are worried about how these ventures will be regulated.

Mr. Chairman, it was these two committees that originally crafted this legislation, and which share sole jurisdiction over the U.S. commercial space launch industry. I respectfully request that you reassert Congress' long-stated goal of promoting greater private investment in new domestic space transportation capabilities. This new industry needs the Congress to mandate in law an enabling regulatory framework for commercial suborbital human space flight, and ensure that this job be carried out by the Office of Commercial Space Transportation.

If Congress can reduce the huge regulatory risk faced by potential investors like myself, I believe that within five years we will ignite a revolution in commercial space transportation, and inspire a whole new generation of space-faring young Americans. That is a future I want to work towards for the rest of my career, and one I believe we will all be proud to have helped achieve.



Dennis A. Tito

Dennis A. Tito is the Chief Executive Officer of Wilshire Associates Incorporated, a leading provider of investment management, consulting and technology services. Applying science to the art of money management, Tito and his team of 250 professionals utilize mathematical formulas to advise a wide variety of institutional and high net worth investors worldwide. Founded in 1972, Wilshire advises on about \$1 trillion in assets, directly manages about \$10 billion in assets, and provides analytical tools to some 350 institutions.

Tito earned a B.S. in Astronautics and Aeronautics from NYU College of Engineering and a M.S. from Rensselaer in Engineering Science. He began his career as an aerospace engineer with NASA's Jet Propulsion Laboratory at the age of 23. While serving at JPL, he was responsible for designing the trajectories for the Mariner spacecraft missions to Mars and Venus. Although he left to pursue a career in investment management, Tito remained interested in and committed to the exploration of space.

Employing the same methodology he used to determine a spacecraft's path, Tito is credited with helping to develop the field of quantitative analytics that uses mathematical tools to analyze market risks. In 1974, Tito developed the Wilshire Total Market Index (The Wilshire 5000), the broadest stock market index that Federal Reserve officials cite as a barometer of the U.S. economy.

Under Tito's guidance, Wilshire has consistently been an industry pioneer. As the world began entering the computer age, Wilshire integrated computers with engineering and investment concepts, to provide some of the first data to money managers, ultimately shaping modern portfolio management theories.

A philanthropist and civic leader, Tito supports and is actively involved in many charitable and civic causes including establishing the Dennis A. Tito Gene-Nutrient Interaction Laboratory at the UCLA Center for Human Nutrition. He formerly served as President of Commissioners for the Department of Water and Power of Los Angeles.

On April 28, 2001, Tito made history by becoming the first individual to personally pay to travel into space. Launched from Baikonur, Kazakhstan, Tito served as a crewmember of an eight-day Russian Soyuz taxi mission to the International Space Station. By fulfilling his 40-year dream to travel to space, Tito captured the imagination of millions of people worldwide and renewed interest in the United States space program.

Born August 8, 1940, Tito has one daughter and two sons and currently resides in Pacific Palisades, California.